

Amendments to the Drawings:

The attached sheets of drawings include changes to Figures 1, 2 and 18. These sheets, which include Figs. 1, 2 and 18, replace the original sheets including Figs. 1, 2 and 18.

REMARKS

The Examiner is thanked for noting typographical errors and each of those noted by the Examiner have been corrected. In addition, any other typing errors which were found in the specification have also been corrected. If the Examiner is aware of other typographical or numbering errors, we would be pleased to correct those if they are brought to the attention of applicant's attorney.

A replacement sheet for Figures 1, 2 and 18 are submitted herewith having reference letters added and located corresponding to the specification so that the Figures are in agreement with the text of the specification.

Claims 1-19 are canceled herewith and new claims 20-48 are submitted. In making this amendment, the applicant has taken into account the Examiner's rejection to claims 2-5, 10, 11, 14 and 19 under 35 U.S.C. § 112, second paragraph so as to overcome the grounds for this rejection.

Claim 1 as submitted herewith is drafted generally along the lines of a combination of prior claims 1 and 2, using, of course, different wording so as to overcome the rejection under 35 U.S.C. § 112.

Claim 1 as now submitted is believed patentable over the prior art of record. Clearly none of the prior art, whether it be Fink (U.S. Patent No. 2,934,150), Schacle (U.S. Patent No. 4,408,958), or other cited art teaches the claimed features of the claims as not submitted.

As stated in claim 20, the location of the thickness reserve (TR) is at a particular position relative to the length of the rotor blade chord. Namely, the thickness reserve is that location in which the rotor blade profile has its greatest thickness. This is located in the range of 15-40% of the length of the rotor blade chord. In addition, claim 20 specifies that the rotor blade has a thickness which is approximately 20-45% of the length of the rotor blade chord.

These particular relative dimensions provide substantially increased power efficiency of the rotor blade as it extracts power from the wind.

The Examiner did not cite any particular art as teaching these limitations but merely gave the view that “the blades of Scha[c]le would perform equally well with the dimensions as claimed by applicant, it would have been an obvious matter of design choice to modify the blade of Scha[c]le by utilizing the specific dimensions as claimed....” Applicant strongly disagrees.

The applicant, as clearly explained in the specification as filed, has obtained an unexpected and unusual design of a wind turbine blade which was unknown and unrelated to any other prior wind turbines blade. As pointed out on page 6, beginning at line 10 of the specification as filed, the inventor states that he has realized that while a wind tunnel admittedly uses different wind speeds, the air flow is always uniform. However, in nature, the wind is subject to gusts and frequently may involve detachment of the flow precisely in the inner region of the blade near the rotor hub 17 where the blade no longer has an aerodynamically clean and optimum configuration. Continuing to quote from the application as filed, the inventor states that “this flow detachment phenomena is propagated a distance along the rotor blade 1 in the direction towards the rotor blade tip.” As a result, the flow can be detached from the rotor blade with a corresponding power loss.

A rotor blade according to the present invention is able to achieve considerable power output by having a clean configuration in the inner region according to the present invention. As pointed out in the rest of the specification on the remainder of pages 6 and 7, the particular shape which applicant has obtained is unique and contrary to the standard teachings of the art, for rotor blade configurations. Further, additional power output from unexpected properties are obtained with the present invention. Thus, in fact, the specific dimensions do solve a stated problem and they are for a particular purpose. Accordingly, claim 20 is believed patentable as well as all claims which depend thereon.

Claims which depend thereon are patentable for reasons beyond the patentability of claim 20. For example, claims 22-25 have particular limitations as to the location of the greatest camber and the value of the greatest camber. These are also unique and non-obvious variations from rotor blades of the prior art. Claims 29-31 also claim additional features not found in nor obvious in the prior art.

New claims 32-48 are generally directed towards an additional feature, namely one in which the rotor blade has a first portion which is fixedly connected to the hub and a second portion which is connected to the rotor blade. In addition, the profile of the first portion of the rotor blade substantially corresponds to a profile of the second portion of the rotor blade. This is also a substantially new and non-obvious rotor blade design for a wind power installation which is not known or obvious from any prior art. Allowance of these claims is also respectfully requested.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

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DVC:les

Enclosures:

3 Sheets of Replacement Drawings (Figures 1, 2 and 18)

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